

ones behind on its ventral surface. The merus has three distinct rows of spines on its dorsal surface, of which the internal row is the largest. One ventral row. Distally a crown of spines. The carpus has two small rows of spines, of which the inner is the longer; the hand smooth and not dilated.

The second, third, and fourth pair of legs are short compared with the chelipeds, the second a little longer than the third, and the third than the fourth; the ischium has a single spine, the merus, carpus, and propodus spinous, and the dactyli regularly dentate.

Measurements:

	Female. mm.	Male. mm.
Body	17	15
Carapace	6	6
Rostrum	3	3
Chelipeds	34	30
Second pair of legs	15	13

One male and one female, dredged off the north-east coast of Ceylon in Sta. 284, from 506 fath.

Of the species heretofore described it is most like *Dyptachus intermedius* (A. M.-E.), but it differs from it in having a spiny rostrum, and very unequal flagella on the antennules. The carapace also is more quadrangular in shape.

LXVII.—*On Mammals obtained by Mr. Alphonse Robert on the Rio Jordão, S.W. Minas Geraes.* By OLDFIELD THOMAS.

THE British Museum has recently received from that admirable collector, Mr. Alphonse Robert, a collection of mammals obtained by him on the Rio Jordão, in the district of Araguary, S.W. Minas Geraes, and it has proved to be of such interest as to deserve a general account. Mr. Robert had already sent collections from Piqueté, Cruzeiro, and other localities near the borders of Southern Minas and Eastern São Paulo, collections which proved of the utmost value in identifying species described by Wagner and other older authors, but which had not contained any novelties beyond the *Sciurus Ingrami* described in a previous number of this Journal*.

The present collection, however, came from a less-known region and included quite a number of new forms. It was

* Ann. & Mag. Nat. Hist. (7) vii. p. 368 (April 1901).

obtained in the tropical forest bordering the Paranahyba, and therefore no doubt gives a sample of the fauna running northwards along that river into Goyaz.

The collection was made during the months of April, May, and June of the present year. The altitude of the locality is given by Mr. Robert as from 700 to 900 metres.

Mr. Robert's continued success as a collector is a great encouragement to those who have helped him, among whom may be specially mentioned Sir William Ingram and the Hon. Walter Rothschild.

1. *Cebus* sp.

5 ♂.

No doubt *C. cucullatus*, Spix, a name synonymized with various other species by more recent authors. What its proper name should be I cannot at present venture to suggest.

2. *Hapale penicillata*, Kuhl.

2 ♂, 5 ♀.

3. *Myotis nigricans*, Wied.

♂.

4. *Glossophaga soricina*, Pall.

♂, 5 ♀.

5. *Sturnira lilium*, Geoff.

2 ♂.

6. *Canis cancrivorus*, Desm.

2 ♂.

Either of Wagner's two names, *Canis melanostomus* and *C. melampus*, may be represented by these specimens.

7. *Conepatus amazonicus*, Licht.

Mephitis Westermanni, Reinh.

♂, ♀.

These specimens, which differ somewhat from each other, are more or less intermediate between the species to which I provisionally refer them and the Uruguayan *C. Feuillei*, Eyd. & Soul. (*C. m. Monzoni*, Aplin). But more specimens are needed before the extent of variation in these different forms can be properly estimated.

In reference to Mr. Howell's suggestion* that the Patagonian skunk (*Conepatus Humboldti*) ought to be generically separated from the other members of the group, and that these should be called *Thiosmus*, it may be pointed out that *Marputius*, Gray, being of the same date as *Conepatus*, would equally antedate *Thiosmus* and be available for the present group. Its type was what Gray called "*Mephitis chilensis*, Geoff."; but his specimen (B.M. 68 a) proves to be not the Chilian skunk (*Conepatus chinga*, Mol.), but the Brazilian one and the actual type of Lichtenstein's *Mephitis amazonica* †.

8. *Nectomys squamipes*, Brants.

♂.

9. *Oryzomys subflavus*, Wagn.

672. ♀. 22nd May.

This specimen closely agrees with an example from Lagoa Santa, determined by Winge as "*Calomys laticeps*," the *Mus vulpinus* of Lund, *nec* Brants, renamed *vulpinoides* by Schinz ‡; therefore a topotype of that species. But it also precisely agrees with Wagner's "*Hesperomys subflavus*" §, described two years before Schinz's name was published, of which I have examined the type in the Munich Museum. So close is the agreement that my measurements of the typical skull might almost have been taken on Mr. Robert's specimen. The name *vulpinoides* will therefore become a synonym of *subflavus*.

The relationship of this species to *O. anguya*, Desm., remains to be settled when topotypes of the latter are obtained from Paraguay.

10. *Oryzomys lamia*, sp. n.

4 ♂, 2 ♀. May to July.

A fairly large species, of a beautiful ochraceous-buff colour.

* N. Am. Faun. no. 20, p. 20, footnote (1901).

† Apropos of the name *Conepatus zorilla* given by me to a Peruvian skunk (Ann. & Mag. Nat. Hist. (7) v. p. 217, 1900), I find that the specific name is rendered invalid by "*Mephitis zorilla*," Fisch. Syn. Mamm. p. 162 (1829). The term seems to have been applied to the skunk of the Orinoco, no doubt a *Conepatus*, independently of its earlier use for members of other allied genera. To keep the same general sound I would propose to use the local Spanish name as a substitute—*Conepatus zorrino*.

‡ Syn. Mamm. ii. p. 193 (1845).

§ Wagn. Schr. Säug. Suppl. iii. p. 534 (1843).

Size rather less than in *O. subflavus*. Fur soft, close, and straight; hairs of back about 11 millim. in length. General colour a beautiful ochraceous buff, brilliant and clear on the cheeks, flanks, and hips, more or less lined with black on the back; in the oldest and brightest specimens the middle area of the back is lined and coloured about as in *O. flavicans* (though of a less reddish tinge), but the bright ochraceous buffy of the flanks is unrivalled in any species known to me. Under surface sharply defined white, the bases of the hairs slaty, except just on the chin and scrotal region, where the hairs are wholly white. Head like back, top of muzzle slightly greyer. Ears large, finely haired, pale brown, contrasting but little with the head. Front of fore limbs like body to wrist, remainder and whole upperside of hands white; hind limbs buffy above, the upper surface of the feet also tinged with buffy. Tail nearly naked, the hairs excessively short and fine; unusually finely scaled, the rings running nearly 20 to the centimetre; above brown, beneath white, darkening towards the tip.

Skull heavily built, with broad muzzle and broad inter-orbital region, whose edges are sharply square or have a fine beading along them, but are without overhanging ridges. Palatal foramina rather longer than the molar series, not widely open, their posterior end some distance in front of m^1 . Palate ending some way behind m^3 .

Dimensions of the type, taken in the flesh:—

Head and body 145 millim.; tail 153; hind foot (s. u.) 33; ear 23.

Skull: greatest length 36; basilar length 28·2; zygomatic breadth 19·5; nasals $15 \times 4\cdot5$; interorbital breadth 6·1; palate length 16·4; diastema 9·7; palatal foramina $6\cdot3 \times 2\cdot3$; length of upper molar series 5·5.

Type. Male (old). B.M. no. 1. 11. 3. 32. Original number 744. Collected 10th July, 1901.

This beautiful species seems widely different from any *Oryzomys* hitherto described from South Brazil. Perhaps its nearest ally is *O. intermedius*, Leche*, which is, however, much less brilliantly coloured, and has a slenderer skull with narrower nasals and narrower interorbital region.

Of this latter animal Mr. Robert has sent home, in his earlier collections, quite a series of specimens from Piqueté and Cruzeiro, in the eastern part of São Paulo, the species no doubt ranging along the region of the Serra do Mar, from

* *Hesperomys laticeps*, var. *intermedia*, Leche, Zool. JB. i. p. 693 (1886).

São Paulo to Rio Grande do Sul. Closely related to it is *O. boliviæ*, described in the succeeding paper.

11. *Oryzomys laticeps*, Lund.

7 ♂, 5 ♀.

These specimens show a considerable amount of variation in colour, especially in the relative proportions of grey and fulvous on the back and sides. Among them there are examples closely agreeing with one from Lagoa Santa determined as "*O. saltator*" by Winge, that being the original *O. laticeps*, Lund.

12. *Oryzomys eliurus*, Wagn.

3 ♂.

13. *Akodon* sp.

5 ♂, 2 ♀.

One of the olive-coloured species of the genus, perhaps *A. brachyurus*, Wagn. Not at present certainly determinable.

14. *Oxymycterus Roberti*, sp. n.

♂.

A member of the large long-snouted group, paler in colour than the other known species.

Size about as in *O. nasutus*. Fur close, straight, and finer, but not hispid; hairs on back about 10 millim. in length, therefore rather shorter than in the allied species. General colour above without iridescence, heavily lined fulvous grey, greyer on the head and fore back, more fulvous on the middle back, where it is slightly more fulvous than Ridgway's "tawny olive." The colour is therefore very different from the deep reddish brown of the other Brazilian species of *Oxymycterus*. Sides paler and greyer. Under surface dull greyish buffy, the bases of the hairs slaty grey, the tips washed with paler yellowish buffy, not marked along the middle line. Line of demarcation on sides not defined. Chin, as usual, white. Snout, centre of face, crown, and nape mixed black and yellowish white, producing a strongly grizzled grey; eyes small, without lighter rings; cheeks washed with pale fulvous. Ears of medium length, thickly hairy, grizzled like the head, with which they are quite concolor. Arms and legs like body; upper surface of hands and feet dull brown; longest anterior claws about 4 millim. in length, measured above, longest posterior about

4.5. Tail finely haired, dark brown as usual, but the hairs of the underside are whitish, imperfectly hiding the brown scales.

Skull with about the same snout-development as in *O. nasutus*, therefore much less than in the large Brazilian forms. Nasals about as wide anteriorly as at their middle, retroussé when viewed from the side, and extending posteriorly some way beyond the premaxillary processes. Interorbital region broad, smooth, and rounded. Outer wall of foramen magnum very narrow. Palatal foramina reaching back to the anterior third of m^1 ; posterior edge of palate level with the back of m^3 .

Upper incisors very narrow. Molars with minute supplementary cusps in the valleys on the outer, but not on the inner, sides.

Dimensions of the type, measured in the flesh:—

Head and body 127 millim.; tail 110; hind foot, s. u. 30, c. u. 33; ear 22.

Skull: bregma to nasal tip 26; zygomatic breadth 15.3; nasals 13.7×4.5 ; interorbital breadth 6.7; length of anterior zygoma-root 2.4; palate length 13.6; diastema 8.3; palatal foramina 7.5×2.8 ; length of upper molar series 5.2.

Type. Male. B.M. no. 1. 11. 3. 51. Original number 741. Collected 5th July, 1901.

This species may be readily distinguished from any of its allies by its paler colour, without rufous above and less brightly buffy below.

Of other South Brazilian species, I find that the true *O. nasutus*, Waterh., extends northwards from Uruguay at least into Rio Grande do Sul, in which province Dr. H. von Ihering obtained, besides the typical examples of *O. Iheringi*, Thos., specimens indistinguishable from Darwin's typical examples of *O. nasutus*.

15. *Proechimys Roberti*, sp. n.

6 ♂, 5 ♀.

Closely similar externally to *P. olivianus*, described in the succeeding paper. Rather brighter and paler coloured, the general colour a richer fulvous, less heavily lined with black. Head not so conspicuously greyer than body. Under surface, inner side of limbs, and upper surface of hands and feet pure sharply-defined white. Tail rather more hairy than in *P. bolivianus*; brown above, whitish below.

Skull smaller than that of *P. bolivianus*, about equalling that of *P. Simonsi*. Nasal region long and narrow. Supra-

orbital ridges abruptly curved outwards posteriorly, and forming distinct postorbital projecting angles; not continued across the parietals. Palatal foramina of medium breadth, broadest at the anterior third, pointed behind, without ridges posteriorly. Posterior palatal opening level with the middle of m^1 , more or less rounded, not very widely open. Basis-occipital very narrow (suture 3 millim.), parallel-sided. Bullæ of medium size.

Dimensions of the type, measured in the flesh:—

Head and body 225 millim.; tail 55; hind foot, s. u. 46, c. u. 49·5; ear 24.

Skull: greatest length 55, basilar length 39; greatest breadth 26; nasals $21\cdot5 \times 5\cdot2$; interorbital breadth 12; palate length 18·5; diastema 11·3; palatal foramina $6 \times 3\cdot5$; length of bullæ 11; length of upper tooth-series 8·1.

Type. Old male. B.M. no. 1. 11. 3. 62. Original number 705. Collected 8th August, 1901.

The present is the first record of this type of *Proechimys* in Eastern or Southern Brazil, and Mr. Robert is to be congratulated on its discovery. It no doubt represents in Southern Brazil the Paraguayan *P. longicaudatus*, Rengger, and the Bolivian *P. bolivianus*. Its cranial characters are remarkably uniform throughout the series examined.

16. *Coendou prehensilis*, Linn.

♀.

17. *Dasyprocta Azaræ*, Licht.

4 ♂, 1 ♀.

As usual there is considerable variation among these specimens in the degree of whiteness or yellowness of the belly.

18. *Agouti paca*, Linn.

♂.

19. *Cavia aperea*, Erxl.

Cavia aperea, Erxl. Mamm. p. 348 (1777), based on the "Aperæ" of Marcgrave, Bras. p. 223 (1648).

(Not the *Cavia porcellus* or *C. aperea* of authors in general when referring to the ordinary small wild "Prea" of Brazil, which is *C. rufescens*, Lund, K. Dansk. Vid. Selsk. Afhandl. viii. p. 283, 1841.)

Cavia leucopyga, Brandt, Mem. Ac. Petersb. 1835, p. 436, pl. xvi.

2 ♂, 2 ♀.

Somewhat against my will, the study of these specimens

compels me to differ from Dr. Winge's conclusions about the *Cavia* of Brazil, and to agree with those of Lund, quoted above. Mr. Robert's Rio Jordão specimens clearly belong to a species larger and greyer than the ordinary "Prea" of the coast regions, of which Mr. Robert sent home examples in his Cruzeiro and Piqueté collections. In the one case the basilar length is about 54-56 millim., and in the other about 48-50, fully adult individuals only being considered. That the latter never reaches the size of the former is also confirmed by Hensel's statement that the largest skull obtained by him was only 50.6 millim. in basilar length.

Lund observed this difference, and rightly basing his conclusions on Marcgrave's measurement and description, allocated the name *aperea* to the larger form and renamed the smaller *rufescens*. As that of the first distinguisher of the two forms, this allocation must necessarily be followed.

Now, however, that by the recognition of two wild forms the origin of the domestic guinea-pig (*Cavia porcellus*, Linn. S. N. (10) i. p. 59, 1758, based on the *Cavia cobaya* of Marcgrave*) becomes doubtful, it would be better to restrict the name *porcellus* to the domesticated form only, using for each of the wild forms the names respectively based on them.

Dr. Winge† considered "*C. rufescens*" to be merely the young of *C. aperea*, but he has not noticed the discrepancy in size between his specimens and those of Hensel and others. He has been good enough to give me some measurements of Lund's specimens, which show that the latter undoubtedly obtained the large form now first collected for us by Mr. Robert.

Brandt's *Cavia leucopyga* is nearly certainly this species, presuming that he took "*C. aperea*" in the usual and not in the revised sense. On the other hand, *C. fulgida*, Wagl. ‡, is no doubt very closely allied to *C. rufescens*. Indeed, had it not been expressly stated that it was from the Amazonian journey of Spix, I should have synonymized the two, for its collector was also in the region inhabited by *C. rufescens*.

The Paraguayan guinea-pig (the *Aperea* of Azara and

* Bras. p. 224 (1648). This affords another instance of what I venture to think is the best way of getting at the primary reference in Linnæus's synonymies. Here Linnæus first quotes his own 'Westgöta Resa,' p. 244 (misprinted 224), and there we find Ray alone quoted. In Ray the primary reference is to Marcgrave, and we thus get at the origin of the name without confusing the discussion with Linnæus's subsidiary references to Aldrovandi, Johnston, Piso, &c.

† E Mus. Lundii, Gnåvere, p. 187 (1887).

‡ Isis, 1831, p. 512.

Cavia Azarae of Wagner *) is also a large form closely allied to the true *C. aperea*, as is shown by some topotypical examples recently sent home by Mr. W. Foster. On the other hand, the well-known "Quiso" of Argentina is a small form, but grey in colour, and appears to need a new name. Its description is given in the paper next following.

20. *Sylvilagus minensis*, sp. n.

6 ♂, 4 ♀.

Size decidedly greater than in the true Rio Janeiran *S. brasiliensis*. General colour above dark grizzled buffy, fairly uniform, heavily lined with black on the back, clearer on the sides. Under surface dull whitish, sometimes washed with pale buffy; collar coarsely grizzled buffy, like the sides. Top of muzzle and centre of forehead rufous; nape brighter and clearer rufous. Lower margins of nostrils prominently white. Supraorbital white (or, rather, cream-coloured) lines present, broad in front of and behind eyes, narrowed just over them by a darkened lateral projection of the forehead colour, which comes down nearly to the eyelid. Below the eye there is but little sign of the light marking. Behind, between eye and ear, the cheek is darkened, in some cases almost black. Outer side of ears grizzled like crown basally, dark brown terminally. Hairs of inner surface dull buffy. Forearms and hands rufous anteriorly, white internally; hind limbs similar, but the feet marbled with white above. Tail rudimentary; its hairs grey basally, buffy terminally.

Skull comparatively slender, with a long and narrow muzzle. Interorbital region flat or slightly concave. Postorbital processes long and broad, hollowed out and almost spoon-shaped above; not anchylosing with the brain-case in any of the specimens examined. Occipital shelf narrowing backwards, with convergent sides and rounded posterior angles. Enamel of upper incisors quite simple, following the outline of the teeth.

Dimensions of the type, measured in the flesh:—

Head and body 370 millim.; hind foot, s. u. 75, c. u. 82; ear 54.

Skull: greatest length 72, basilar length 55; zygomatic breadth 35·5; nasals 30 (diagonally) $\times$ 14·4; interorbital breadth 17; breadth of brain-case 27·3; palate length from hensenion 29; diastema 22; palatal foramina $18 \times 6\cdot7$.

Type. Male. B.M. no. 1. 11. 3. 81. Original number 652. Collected 3rd May, 1901.

* Schr. Säug. Suppl. iv. p. 63 (1844).

On examining the hares from the region usually said to be inhabited by "*Lepus brasiliensis*," I find that they belong to three different forms—the present one, the largest, from Rio Jordão and Lagoa Santa, a middle one from Paraguay obtained by Mr. Foster, and a very small one from Rio Janeiro. Of the last-named, a fully adult specimen from Porto Real, near Rezende, Rio, has a skull only just 47 millim. in basilar length, with small narrow nasals, and with its postorbital processes firmly welded to the skull posteriorly.

The original *Lepus brasiliensis* of Linnæus and *L. tapeti* of Pallas were both primarily founded on Marcgrave's Tapeti*; and since even at that date Rio Janeiro was the chief settlement in this part of Brazil, it would seem best to consider the Rio animal as representing that species. Marcgrave's description is, of course, not worth much; but as to size, his "*dupla magnitudine gliris*" suggests the very smallest conceivable hare. I therefore propose to call the Rio hare *L. brasiliensis* and to give new names to the other two. The Paraguayan one is described below.

Lund and Winge's *Lepus brasiliensis* is the larger Minas species.

21. *Mazama rufa*, F. Cuv.

A female skull and two fawns.

22. *Tamanduas tetradactylus*, Linn.

♂, 6 ♀.

This series is of much interest, as showing the considerable amount of colour-variation to be found in this group in specimens from one locality. In their general pattern of coloration five of the specimens may be called normal—that is to say, with the head, nape, fore limbs, fore back in the central line, and hind feet light, and the hind back dark with two broad shoulder-straps passing forwards across the humerus. But the dark may be deep black to the roots of the fur, with the underfur also black, or may vary to yellowish white with black tips, the underfur also whitish. Again, the light colour may vary from pale yellowish white to a strong reddish tone.

One specimen alone, no. 739, differs markedly from the rest, and agrees precisely with Cope's "*Myrmecophaga bivittata straminea*"†, to which it is clearly assignable. But

* H. N. Bras. p. 223 (1648).

† Am. Nat. 1889, p. 132.

whether that is a semi-albinistic form of the common *Tamandua*, or is a recognizable species or subspecies, I am not at present prepared to assert, though I am rather inclined to the former idea. Mr. Robert says that its eyes were not red, but brown with black pupils, and he thought that its ears were a little longer than usual, though his measurements do not show this.

In the skull there is no character by which it could be distinguished from the other specimens. All the skulls are very variable, especially as to the line of the fronto-nasal suture, which may vary from nearly directly transverse to deeply **W**-shaped, and in the relative development of the palatal and pterygoid inflations.

23. *Cabassous unicinctus*, Linn.

2 ♂, 1 ♀.

24. *Dasypus sexcinctus*, Linn.

Skull.

25. *Tatu novemcinctus*, Linn.

2 ♂.

26. *Didelphis Azaræ*, Temm.

♂, ♀.

27. *Marmosa cinerea*, Temm.

♀.

28. *Chironectes minimus*, Zimm.

♀.

LXVIII.—*New Species of Oryzomys, Proechimys, Cavia, and Sylvilagus from South America.* By OLDFIELD THOMAS.

IN working out the Robert collection from the Rio Jordão the following allied species from other localities have proved to need description:—

Oryzomys bolivice, sp. n.

A Bolivian representative of *O. intermedius*; tail shorter and molars smaller.

Size and general proportions as in the allied species.